Comments on:

Clean Water Act Section 303(d): Notice for the Public Review of the Draft Total Maximum Daily Load (TMDL) for the Chesapeake Bay (Document ID EPA-R03-OW-2010-0736-0001)

Kristin Farry, PhD, Madison, VA

As an engineer with a doctorate, I was particularly concerned by the EPA's heavy reliance on modeling for contributions from non-point sources. It's very hard for me to see how the resolution and accuracy of the model can justify sweeping regulatory actions such as "near total exclusion of livestock from streambeds" (Virginia WIP) hundreds of miles from the measurement points used to calibrate the models. Furthermore, the great majority of references cited are EPA or other government reports. The percentage of refereed journal articles (for example) listed as references is disappointing for a foundation of such sweeping regulatory authority.

As a second-generation farmer, I also have major concerns about an emphasis on specific "solutions" rather than results. Fencing all streambeds to totally exclude livestock is an example of a specific solution. On my family's farm, we have nine creeks which join to form Whetstone Run, a Rapidan River tributary. All but two of these creeks begin on our farm. We have over half of the farm in forest. The remainder (about 220 acres) is devoted to hay production and pasture for livestock (mostly sheep with a few brood cows). In our open land (about 220 acres), we have about 14,000 linear feet of streambed. Fencing this out (28,000 feet of fence at $3/foot), adding the necessary number of stream crossings (about $6000 each), burying 20,000 feet of water lines with power for heaters to supply waterers (about $7/foot) could cost between $250,000 and $300,000. On-going maintenance of the streambed fencing would also be expensive: our streams flood frequently because we have allowed then to grow up with trees and brush per NRCS recommendations. We lost many miles of fence in a single flood in 1995, so this is not a theoretical concern.

In addition to this tremendous increase in expense, we would lose about 30-35 acres of pasture and hay acreage, so our farm income would be reduced. We could clear some forest to make up for the lost acreage, but that would in itself add to the Bay pollution loads (according to your model).

We have already made a major investment in water quality-driven improvement. We stopped row-cropping years ago (sediment run-off from this hilly ground was significant). We converted from an all-cattle operation to mostly sheep. Sheep do not stand in creeks like cattle do. Sheep also are kinder to ground cover than cattle, so sediment runoff from a sheep operation is less than from a cattle operation. Working with the NRCS and CSWD, we have invested about $100,000 in barnyard drainage, roof-water runoff control, animal walkways, fencing out buffer zones for our barnyard and woodlands, road drainage improvements, and a manure composter. We got on a state-approved nutrient management plan. Beyond the money invested, family members put in over 1000 hours of engineering, fencing, regulatory research, and construction management time to lower costs. Fortunately, grants and tax credits covered a portion of the work, but nowhere near all. We were frustrated by the lack of data (no one tested the water before or after all this work); however, we made the investment because

we believed that it would be necessary to continue farming in the face of increasing environmental concerns and ultimately regulations. It will take us years to pay for this, but we did have reason to believe that these BMPs were going to make us better neighbors and citizens.

The one thing that we could do to contribute more is get rid of the last few cows and concentrate entirely on sheep. Unfortunately, we face poorly-conceived "one-approach-fits-all-farms" regulations in these WIPs such as this fencing mandate that could cost us up to 3 times what we have voluntarily invested already. Worse, this investment would not contribute anything to the Bay cleanup because sheep don't like getting their feet wet anyway. We are straining to pay for what we have done for the Bay already--farm input prices have soared while farm product prices have not, thanks to imports from places where water quality and feed sources are not a concern.

Imposing solutions that do not produce the desired result is irresponsible. In this case, it will force my family out of farming. Since it appears from your report that suburban development does not pollute the Bay, perhaps we should sell the farm to a developer.

My bottom line: **Please craft this policy and the derivative WIPs to emphasize increased granularity of water quality measurement to pin-point agriculture-related problem sources and allow solutions tailored to livestock species, farming technique, specific crops, soil types, and terrain.**